PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	**CP-RW-2018-02-08-01** **Date: 12-02-18**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division. BBMP, Bangalore
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains at 4th & 5th cross Manjunatha Nagara in Ward No.14 Bagalagunte.
Agency	:	Technical Manager West KRIDL, Project Implementation Unit, No.280, 59th crosss, 17th 'C' Main road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/86/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-02-18
Sample ID No	:	2018-02-08-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	08-02-18

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
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Samples will be disposed after 30 days from the date of issue of test certificate

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R KARTHIK RECHAN
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Quallity Manager

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2018-02-08-01** **Date: 12-02-18**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains at 4th & 5th cross Manjunatha Nagara in Ward No.14 Bagalagunte.
Agency	:	Technical Manager West KRIDL, Project Implementation Unit, No.280, 59th crosss, 17th 'C' Main road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/86/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-02-18
Sample ID No	:	2018-02-08-01/01
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	08-02-18

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.3	Minimum Retained Coating 95%
2	99.0	1.0		
3	98.0	2.0		

Note:
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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2018-02-08-01** **Date: 12-02-18**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains at 4th & 5th cross Manjunatha Nagara in Ward No.14 Bagalagunte.
Agency	:	Technical Manager West KRIDL, Project Implementation Unit, No.280, 59th crosss. 17th 'C' Main road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/86/2017-18
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	08-02-18
Sample ID No	:	2018-02-08-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	08-02-18

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.98	11.65	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.75	2-4
3	Percent air Voids	4.87	4.51	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.32	14.54	13-15
5	Percent Voids filled with Bitumen(VFB %)	72.08	72.29	65-75
6	Density, g/cc	2.27	2.26	-

Note:-
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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2018-02-15-04	**Date: 17-02-18**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore	
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains at 4th & 5th cross Manjunatha Nagara in Ward No.14 Bagalagunte.	
Agency	:	Technical Manager West KRIDL, Project Implementation Unit, No.280, 59th crosss, 17th 'C' Main road, 3rd 'Y' Block, Rajajinagar, Bangalore.	
Customer Reference	:	BBMP/EE/DD/WO/86/2017-18	
Source of Sample	:	Sample supplied by Agency	
Date of Receipt	:	15-02-18	
Sample ID No	:	2018-02-15-04/01	
Type of Mix	:	BC (Bituminous Concrete)	
Date of test	:	15-02-18	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	468	469
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	6.40	6.20
4	Average percentage	%	6.3	

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Lab ID : CP-RW-2018-02-15-04 **Date: 17-02-18**

Sample ID : 2018-02-15-04/01

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 468

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	9	9	1.9	98.1	90-100
9.5	59	68	14.5	85.5	70-88
4.75	129	197	42.1	57.9	53-71
2.36	72	269	57.5	42.5	42-58
1.18	32	301	64.3	35.7	34-48
0.6	18	319	68.2	31.8	26-38
0.3	62	381	81.4	18.6	18-28
0.15	27	408	87.2	12.8	12-20
0.075	32	440	94.0	6.0	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 469

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	11	11	2.3	97.7	90-100
9.5	62	73	15.6	84.4	70-88
4.75	132	205	43.7	56.3	53-71
2.36	63	268	57.1	42.9	42-58
1.18	32	300	64.0	36.0	34-48
0.6	29	329	70.1	29.9	26-38
0.3	32	361	77.0	23.0	18-28
0.15	29	390	83.2	16.8	12-20
0.075	36	426	90.8	9.2	4-10

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